



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/646,282

08/21/2003

Frank Liebenow

P1960US00

9378

32709

7590

04/17/2008

GATEWAY, INC.

ATTN: PATENT ATTORNEY

610 GATEWAY DRIVE

N. SIOUX CITY, SD 57049

EXAMINER

WOOD, WILLIAM H

ART UNIT

PAPER NUMBER

2193

MAIL DATE

DELIVERY MODE

04/17/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/646,282	Applicant(s) LIEBENOW, FRANK	
	Examiner William H. Wood	Art Unit 2193	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 January 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-70 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-70 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1-70 are pending and have been examined.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1-5, 7-8, 10-15, 17-18, 20-25, 27-28, 30-34, 36-37, 39-43, 45-46, 48-52, 54-55, 57-62 and 64-69 are rejected under 35 U.S.C. 102(e) as being anticipated by **Warnes** (USPN 7,051,189).

Claim 1

Warnes disclosed a method for optimizing the representation of a code sequence, comprising:

determining the frequency of operations performed in the code sequence (*figure 1; column 9, lines 3-13*); and

tuning an instruction set for assigning an op-code representation to an instruction (*column 3, lines 29-30; column 9, lines 39-45*), wherein the tuning of the instruction set is based on the frequency of operations performed (*column 9, lines 20-23*).

Claim 2

Warnes disclosed the method of claim 1, wherein the representation of a code sequence is a bit symbol representation (*column 9, line 64; figure 2*).

Claim 3

Warnes disclosed the method of claim 1, wherein the instruction set is a variable length instruction set (*column 9, lines 45-46*).

Claim 4

Warnes disclosed the method of claim 1, wherein the instruction set is a constant length instruction set (*column 9, lines 45-46*).

Claim 5

Warnes disclosed the method of claim 1, wherein the step of determining operation frequency may further include loop analysis (*column 9, lines 3-15*).

Claim 7

Warnes disclosed the method of claim 1, further comprising the step of providing a representation of operation frequency, which represents the frequency of operations performed (*column 9, lines 16-19*).

Claim 8

Warnes disclosed the method of claim 7, wherein the representation of operation frequency is a frequency distribution (*column 9, lines 16-19*).

Claim 10

Warnes disclosed the method of claim 1, wherein a more compact version of the code sequence is accomplished through shortening of bit symbol representation of an op-code of the instruction set (*column 9, line 64*).

Claims 11-15, 17-18 and 20

The limitations of claims 11-15, 17-18 and 20 correspond to claims 1-5, 7-8 and 10 and as such are rejected in the same manner. Further, “assigned op-code representations” can be found in **Warnes** (figure 2, element 207).

Claim 21

Warnes disclosed a method for optimizing the representation of a code sequence, comprising:

determining the frequency of use of a register by the operations performed in the code sequence (*column 9, lines 3-5; column 9, line 67 to column 10, line 5; determining usable instructions must determine usable registers for those instructions*);

tuning an instruction set for assigning a target-code representation for the register, wherein the tuning of the instruction set is based on the frequency of use of the register (*column 3, lines 29-30; column 9, lines 39-45; column 9, lines 20-23*).

Claims 22-25 and 27-28

The limitations of claims 22-25 and 27-28 correspond to claims 2-5, 7-8 and 10 and as such are rejected in the same manner.

Claims 30-34 and 36-37

The limitations of claims 30-34 and 36-37 correspond to claims 21-25 and 27-28 and as such are rejected in the same manner.

Claims 39-43 and 45-46

The limitations of claims 39-43 and 45-46 correspond to claims 1-5, 7-8 and 10 and as such are rejected in the same manner.

Claims 48-52 and 54-55

The limitations of claims 48-52 and 54-55 correspond to claims 21-25 and 27-28 and as such are rejected in the same manner.

Claims 57-62 and 64-69

The limitations of claims 57-62 and 64-69 correspond to claims 1-5, 7-8 and 10 and as such are rejected in the same manner. Further, “comprising a compiler” can be found in **Warnes** (column 7, line 28) and “comprising and assembler” (column 8, line 60 and column 9, line 17). Additionally, “translation executable for translating source code to intermediate code” (column 8, lines 55-65).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 6, 9, 16, 16, 26, 29, 35, 38, 44, 47, 53, 56, 63 and 70 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Warnes** (USPN 7,051,189).

Claims 6, 16, 26, 35, 44 and 53

Warnes did not explicitly state the method of claim 1, wherein the modification of the op-code may be executed by a loadable microcode. Official Notice is taken that it was known at the time of invention for op-codes to be executed by microcode. It would have been obvious to one of ordinary skill in the art at the time of invention to implement the opcodes of **Warnes** with microcode execution. This implementation would have been obvious because one of ordinary skill in the art would be motivated to provide an easily updatable system for microprocessor maintenance.

Claims 9, 19, 29, 38, 47, 56, 63 and 70

Warnes did not explicitly state the method of claim 8, wherein the frequency distribution is a histogram. Official Notice is taken that it was known at the time of invention display information using histograms. It would have been obvious to one of ordinary skill in the art at the time of invention to implement the information of **Warnes** with histogram display. This implementation would have been obvious because one of ordinary skill in the art would be motivated

to provide a common easily understandable display which would thus be quick to implement.

Response to Arguments

5. Applicant's arguments filed 30 January 2008 have been fully considered but they are not persuasive. Applicant argues **Warnes** fails to disclose tuning based on the frequency of operations performed (independent claims), and "wherein the step of determining operation frequency may further include loop analysis" (claim 5).

Regardless of the cited reference's discussion on static and dynamic, the broadest reasonable interpretation of Applicant's claim language reads upon the cited reference, **Warnes**. Both static and dynamic counts in **Warnes** determine the counts for "operations performed in the code sequence". In the case of static counts, the count is for operations of a certain type. In the case of dynamic counts, the count is for operations related to a specific instruction (a more narrow type). Clearly, the cited reference, determines the frequency Of operations performed in the code sequence (the static count of operations related to a certain type of operation). Further, to the extent programs contain loops, counting operations are a counting/analysis of those loops. Having addressed Applicant's concerns the rejections are maintained as indicated.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Art Unit: 2193

Correspondence Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. Wood whose telephone number is (571)-272-3736. The examiner can normally be reached 10:00am - 4:00pm Tuesday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lewis A. Bullock Jr. can be reached on (571)-272-3759. The fax phone numbers for the organization where this application or proceeding is assigned are (571)273-8300 for regular communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR systems, see <http://pair-direct.uspto.gov>. For questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-3900.

/William H. Wood/
William H. Wood
Primary Examiner, Art Unit 2193
April 18, 2008